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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of

Atty. Docket

RONALDUS M. AARTS ET AL.

PHN 17,834

Serial No.: 09/741,917

Group Art Unit: 2654

Filed: December 20, 2000

Examiner: V. P. Harper

Title: AUDIO SIGNAL PROCESSING DEVICE


Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is an original copy of an Appeal Brief in the
above-identified patent application.

Please charge the fee of \$330.00 to Deposit Account
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Respectfully submitted,

By 
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BRIEF FOR APPELLANTS

This is an appeal from the Examiner of Group 2654 finally rejecting claims 2-6 in this application.

(i) Real Party in Interest

The real party in interest in this application is U.S. Philips Corporation by virtue of an assignment from the inventors recorded on May 29, 2001, at Reel 11853, Frames 225-227.

(ii) Related Appeals and Interferences

There are no other appeals and/or interferences related to this application.

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(iii) Status of the Claims

Claim 1 has been cancelled, while claims 2-6 stand finally rejected by the Examiner.

(iv) Status of Amendments

There was no Amendment filed after final rejection of the claims on May 19, 2004.

(v) Summary Of Claimed Subject Matter

The subject invention concerns an audio signal processing device in which the perceived direction in which the speech signals portion of combined speech and music signals is adjustable (in the Substitute Specification, see page 5, line 9 to page 6, line 6, paragraph [0014]). When viewing a relatively small television screen, the perceived position from which the speech signals originate is not important. However, with the proliferation of wide-screen television receivers, it is very desirable if the speech signal is perceived to originate from the relative position of the speaker on the television screen, as opposed to, for example, a predetermined center position. To that end, the subject invention, as claimed in claim 2, includes input means for receiving combined speech and music signals on n input channels ($S_n(M+S)$ applied to speech filter 1 and differentiating means 2, Substitute Specification page 4, lines 6-10), means for separating

the speech signals from the music signals (Ref. No. 1, Substitute Specification page 4, lines 6-17, paragraph [0012]). In addition, the subject invention includes "signal direction detection means for ascertaining a direction from which the speech signals originate" (Ref. No. 5, Substitute Specification page 5, lines 9-16, paragraph [0014]) and "converter means for converting the speech signals in accordance with a desired virtual change in the direction from which the speech signals can be heard" (Ref. No. 6, Substitute Specification page 5, lines 16-19, paragraph [0014]). Combination means (Ref. No. 4, Substitute Specification page 4, line 25 to page 5, line 1, paragraph [0013], page 5, line 19 to page 6, line 6, paragraph [0014], and page 6, lines 13-16, paragraph [0016]), then combines the modified speech signals and the music signals.

(vi) Grounds of Rejection to be Reviewed on Appeal

The invention, as claimed in claims 2-6, stands rejected under 35 U.S.C. 103(a), as being unpatentable over Japanese Patent Application Publication No. JP 09114479A to Masaharu et al., in view of Japanese Patent Application Publication No. JP 07056497A to Atsushi et al.

(vii) Arguments

The Masaharu et al. reference appears to disclose a sound field reproducing device in which voice signals are extracted from an input stereo signal including voice signals and music signals, reflected sounds are added to the resulting music signals thereby expanding the sound field of the music signals, and then the extracted voice signals are added to the expanded sound field music signals.

The Atsushi et al. reference discloses a voice virtual location system which, in response to an operator's voice inputted to a microphone along with position data and state data, locates the operator's voice to a virtual position in a virtual space.

Appellants submit that in rejecting a claimed invention under 35 U.S.C. 103(a), the Examiner must first establish a prima facie case of obviousness (MPEP § 2142). To establish a prima facie case of obviousness, two factors must be considered: "(1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success" *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

With regard to (1), MPEP § 2143.01 states:

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce

the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art."

This is supported by *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000), where the Court states "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art."

In addition, in *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990), the Court states "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."

In addition, MPEP § 2143.01 states:

"A statement that modifications of the prior art to meet the claimed invention would have been "'well within the ordinary skill of the art at the time the claimed invention was made'" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references." (referencing *Ex parte Levengood*, 28 USPQ2d 1300 (BPAI, 1993))

Appellants submit that the Examiner has not met the criteria to establish a prima facie case of obviousness. In particular, the Examiner states, in commenting on the applicability of Masaharu et

al. to the invention as claimed in claim 2, "combination means for combining the modified speech signals and the music signals, and for outputting the combination modified speech and music signals on m output channels, m being an integer" (emphasis added). However, in actuality, Masaharu et al. merely discloses devices for separating the voice components of the combined signal (voice signal eliminating circuit 12 and voice extracting circuit 13), processing the voiceless resultant signal, for example, for widening (sound field expanding circuit 15), and then re-inserting the (unprocessed) voice components (adding circuit 16) such that the voice components are not subjected to the widening processing. Masaharu et al. neither discloses nor suggests any form of processing of the separated voice components.

While, arguably, Masaharu et al. and Atsushi et al. may be combined, as indicated above, "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination."

Hence, Appellants submit that there is no suggestion or motivation to modify Masaharu et al. to combine therewith the teachings of Atsushi et al. Appellants believe that the only place such a suggestion could have come is the subject invention, which is indicative of impermissible hindsight.

Furthermore, Appellants believe that Atsushi et al. is not art analogous to that of Masaharu et al. In particular, Masaharu et al. relates to a device for reproducing a sound field having a range equal to or wider than that in the conventional practice without impairing the clarity of voice signals, by extracting the voice signals, processing the voiceless signals, and then re-inserting the voice signals. This would be done in the case of music or television in order to enhance the listening experience. Atsushi et al., on the other hand, is concerned with the placement of voice sounds in a virtual field which would be used in, for example, a multiple player virtual reality game simulator. Appellants submit that one skilled in the art would not look to the virtual reality gaming field to further enhance the listening experience as disclosed in Masaharu et al.

The Examiner appears to attempt to show that Masaharu and Atsushi are in the same field by stating:

"In addition, Masaharu discloses field expansion means that can orientate an image using sound effects to arbitrary positions in space (¶0014), but Masaharu does not specifically teach that "signal direction detection means for ascertaining a direction from which the speech signals; converter means for converting the speech signals in accordance with a desired virtual change in the direction from which the speech signals can be heard, said converter means forming modified speech signals."

Appellants commend the Examiner for being able to read Japanese. However, Appellants do not have such talents. Appellants had provided the Examiner with only the English Abstract of

Masaharu et al. However, the Examiner has not provided Appellants with any English translation of Masaharu et al. to enable Appellants to ascertain the exact content of Masaharu et al. Hence, Appellants are not able to judge what are the contents of paragraph 0014.

Appellants herein refer to MPEP §706.02, which states (on page 700-20, col. 2):

"If the document is in a language other than English and the examiner seeks to rely on that document, a translation must be obtained so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection."

Since the Examiner has not provided such a translation, Appellants can only discount the statement of the Examiner.

Notwithstanding the above, it should be kept in mind that Masaharu et al. concerns the processing of the music portion of the sound signal and not the voice portion. Hence, any steering done by Masaharu et al. is to the music portion. In fact, Masaharu et al. extracts the voice portion prior to processing such that the processing does not affect the voice portion.

Based on the above arguments, Appellants believe that the subject invention is not rendered obvious by the prior art and is patentable thereover. Therefore, Appellants respectfully request that this Board reverse the decisions of the Examiner and allow this application to pass on to issue.

Respectfully submitted,

by 
Edward W. Goodman, Reg. 28,613
Attorney

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On Sept. 29, 2004
By Burnett Jones

CLAIMS ON APPEAL

1. (Cancelled).

2. (Previously Presented) An audio signal processing device comprising:

input means for receiving combined speech and music signals on n input channels, n being an integer;

5 separating means for substantially separating the speech signals from the music signals;

signal direction detection means for ascertaining a direction from which the speech signals originate;

converter means for converting the speech signals in
10 accordance with a desired virtual change in the direction from which the speech signals can be heard, said converter means forming modified speech signals; and

combination means for combining the modified speech signals and the music signals, and for outputting the combination modified
15 speech and music signals on m output channels, m being an integer.

3. (Previously Presented) The audio signal processing device as claimed in claim 2, characterized in that the converter means

comprises one or several additional input channels for receiving speech and position signals from a microphone having position

5 recording means.

4. (Previously Presented) An audio reproduction system comprising:

an audio signal processing device as claimed in claim 2; and

sound reproduction means for reproducing amplified speech and

5 music signals.

5. (Previously Presented) An audio-visual reproduction system comprising:

an audio signal processing device as claimed in claim 2; and

a unit including a picture screen and sound reproduction

5 means.

6. (Previously Presented) The audio signal processing device as claimed in claim 2, wherein said audio signal processing device further comprises:

further converter means coupled to said separation means for

5 converting the music signals, in accordance with a desired virtual spatial widening, into widened music signals, said widened music signals being combined with said modified speech signals in said combination means.